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361 it did not arise on a previous settlement. The modern development of the Malay Peninsula could not have been imagined by Raffles in 1819; he intended that his city should achieve pre-eminence by its policy of free trade, which would attract the Chinese entrepôt trade from Batavia. The site selected lay on the south coast of Singapore Island, where the mangrove-lined Singapore River discharged into the sea. Here was situated what was probably the best anchorage in the days of sail; for the roads between Tanjong Rhu and Tanjong Pagar gave good protection from all but south-east winds, and the force of these was broken by islands to the south.

The Old Towns

361 The great cities were developed on a plan, rather than allowed to grow
503 haphazardly, but it is hardly surprising that technological and sociological changes have defeated the aims of the early planners. The old towns represented the transplanting of the city forms of contemporary Europe to South-east Asia. The walled city of Intramuros, the older section of Manila, was a replica of the fortified town of sixteenth-century Europe, as was the earlier Portuguese Malacca. Batavia was likewise a fortified city, but the low terrain and abundant water encouraged the Dutch to copy the characteristic features of the cities of Holland. Thus old Batavia, the *Benedenstad*, was constructed on both sides of the Tjiliwong, and canals on a rectangular pattern were excavated.

Nearness to water, yet with freedom from flooding, was the essential requirement of all the cities, but seasonal variations in precipitation and periodic torrential downpours continue from time to time to defeat even modern techniques of civil engineering. The Batavian canals were only partly successful: in the wet seasons they flooded, and in dry periods they degenerated into a "dismal succession of filthy bogs and stagnant pools."[5] Pollution of the canals and the extension of the coastal swamps due to sedimentation gave old Batavia an evil reputation for disease.

Bangkok and Saigon, on low alluvial plains, with great seasonal fluctuations in river levels, were confronted with difficult problems. Official buildings commanded the little higher ground that was available, and the great bulk of the population lived in wooden houses built on stilts or on pontoons. Early Bangkok had no street pattern. The Royal City, or "Grand Palace," was a self-contained walled city, about a square mile in area, with palaces, temples, and administrative buildings. A canal across the neck of the bend in the Chao Phraya converted the old city into an island, outside which

[5] J. J. Stockdale: Sketches of the Island of Java (London, 1811), p. 129.

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permanent buildings and roads did not exist and all communication was by boat along the canals, or "klongs."

Singapore possessed the advantage of greater topographic variety. Eminences of granite formed good sites for public buildings, and the city spread out over the land above flood level on both sides of the swampy Singapore River.

All the old towns, with the exception of the architecturally exotic Bangkok, have a gridiron layout, which has meant the maximum of congestion in modern times. Racial zonation, well marked in the old towns, has tended to persist. Europeans have long since abandoned their old quarters, but the Chinese have remained in strength; indigenous peoples, however, are significantly absent. In Manila and Bangkok the old cores have been retained intact and new business and financial quarters have been created away from the old cities. Though Intramuros has lost its military functions and most of its administrative ones, it still keeps, in part, those of a judicial and religious nature. Old Bangkok, however, has lost little of its earlier importance and is one of the greatest tourist attractions in Southeast Asia. In Singapore and Jakarta the old core has been reconstructed as the business district, but since this took place before the advent of the motor vehicle, congestion is still acute. Saigon, having no old core and therefore able to plan its development without encumbrances, nevertheless also adopted a gridiron layout, but it is not easy to suggest an alternative that would have made better use of the environment.

The Expansion of the Cities

The rapid growth of the cities in the late nineteenth and the twentieth centuries has been due to the investment of capital, largely from the mother country, in production for export; the consequent improvement of the ports and the creation of a communications network focusing on them; a considerable increase in the scope of administrative activities; and, more recently, the establishment of secondary industries. Though these have provided the impetus, expansion has been possible only through the application of new techniques of engineering (particularly in drainage and water supply) and preventive medicine, making the cities as healthy as those of the West.

The three centuries of stagnation in Manila is a remarkable historical record. Expansion beyond the walls of Intramuros began almost a century later than the growth of old Batavia, which too had suffered a period of stagnation in the seventeenth century. Even the short British occupation (1762–1764) and the revolt of the American colonies failed to arouse Spanish interest in the distant possession, and the growth of Manila in the latter half